DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

October 27, 2003

Army Reserve Division

Karen Mason-Smith, Remedial Project Manager
Environmental Protection Agency
Region 5
SR-6J
77 West Jackson Boulevard
Chicago, IL 60604-3590

Dear Ms. Mason-Smith:

This correspondence provides responses to comments on the Draft Construction Completion Report, Various Site Remediations for the Fort Dearborn U.S. Army Reserve Center. Comments were provided by EPA Region 5 letters of June 17, 2003, September 10, 2003, and September 12, 2003. The September 12, 2003 comments were directed to the third party Data Validation Report. A similar response letter has also been provided to the Illinois EPA Federal Facility Unit.

Please feel free to call Douglas Meadors of the US Army Engineer District Louisville at (502) 315-6345 with any technical questions regarding the enclosed documents.

You may respond to MAJ David Quivey, Project Officer, by e-mail at david.quivey@ocar.army.pentagon.mil, by mail to the address provided in this correspondence or by telephone at (703) 601-3406.

Sincerely,

Eric Laughner Deputy Director
for Del C. Fougner
Colonel, US Army
Director, Army Reserve Division

Enclosure

IEPA Comments dated July 8, 2003

1. IEPA Comment: Section 2.2.1, Page 6: The text references a possible connection between the former shop sink and a nearby downspout. However, no post-excavation discussion was included regarding the potential for this connection to have been active and if this connection would have served as an avenue for waste to have been released into the environment. The potential exists that this connection may have been in place before, or after the installation of the shop sink drum. Since no contamination was found upon the removal of the shop sink drum, this leads one to question if the shop sink drum actually received waste. This newly discovered "alternative route" to drain the shop sink should be investigated to determine its outfall, and if necessary, to sample that outfall.

   Army Response: The Army recognizes that the nearby downspout may have at one time been connected to the shop sink, based on remaining evidence at the site. Assuming this to be the case, the downspout could have received wastewater from the shop sink. Despite this, the Army does not believe that the wastewater that may have been discharged into the downspout from the shop sink would pose a significant risk to human health or the environment or merit further investigation. This is based on the following:

   (1) Evidence at the site corroborates the verbal reports from former Army Reserve personnel that the shop sink drained into a 55 gallon drum buried outside the building (as detailed in the April 2000 EBS Report). The 2nd paragraph in Section 2.2.1 of the Construction Completion Report indicates that, after the drum was excavated, staining was visually observed in soil immediately beneath the former drum location. This visual observation indicates that the drum had received discharge from the former shop sink. At the time that the drum was removed, there was no PID readings detected above background in the excavation. Subsequent analysis of soil samples collected in close vicinity to the drum indicated no contamination. This evidence leads to the conclusion that the wastewater discharged from the shop sink into the drum did not contain substances of a nature or in a quantity that posed a significant risk to human health or the environment.

   (2) Given that the soil samples and PID reading indicate that the waste from the shop sink discharged into the 55-gallon drum did not contain substances of concern, a similar conclusion is reached for any shop sink wastewater discharged via the downspout. Therefore, there is no evidence that any wastewater discharged from the shop sink via the downspout would be more likely to pose a contamination risk to human health or the environment than the wastewater discharged from the shop sink into the 55-gallon drum.

   (3) Current information indicates that the downspout is connected to a storm sewer that likely discharges into a drainage swale to the west of the OMS Building. This is on property that is

adjacent to a public right of way, one of which is Higgins Rd., a heavily traveled urban state highway. Conditions at the sewer outfall would likely be affected by adjacent property usage and runoff from adjacent roadways. Thus, even in the unlikely event that the discharge from the shop sink into the downspout contained substances of concern, any investigation of the drainage swale would be inconclusive as to the source of any contaminants that might be found there.

Based on the evidence, further investigation of the shop sink, the 55-gallon drum or the downspout pathway is not warranted.

2. IEPA Comment: Section 3.1.3, Page 13: Please add the term: "commercial" to the term "industrial" when used in the text to describe the industrial/commercial remedial objectives.

   Army Response: The text has been revised as requested, in this section and elsewhere in the report, as appropriate.

3. IEPA Comment: Section 3.1.3, Page 13: The term: "ingestion" should be inserted in place of "inhalation" when referring to the residential criteria that was exceeded for Benzo(a)pyrene. Please also correct the same reference on page 17.

   Army Response: The text has been revised as requested.

4. IEPA Comment: Section 4.0, Page 17: In item 6, the term: "industrial/construction" is used. Please correct this to read: "industrial/commercial." Also in this same item, the term: "ingestion" is omitted from the text. Please correct.

   Army Response: The text has been revised as requested.

5. IEPA Comment: Section 4.0, Page 17: The text makes no recommendations as to how to address the sample results that exceed the remedial objectives. In addition, no discussion is included regarding the potential for institutional controls to be placed on the property since the residential objectives were not met.

   Army Response: The sampling results support the conclusion that the site meets the soil remediation objectives, even in the residential scenario. Of the 24 samples collected for laboratory analysis, all results met TACO residential remedial objectives except one analyte in each of two samples. Benzo(a)pyrene (167 µg/kg) marginally exceeded the residential criterion (90 µg/kg) in one sample at the Former Vehicle Wash Rack and arsenic (14 mg/kg) marginally exceeded the residential and regional background criterion (13 mg/kg) in one sample at the Former Vehicle Inspection Pit. The presence of benzo(a)pyrene in the environment is ubiquitous

since it is a product of incomplete combustion[1]. Additionally, benzo(a)pyrene concentrations at the Ft Dearborn USARC are well below the City of Chicago background concentration (1,302 µg/kg) as published in "Polynuclear Aromatic Hydrocarbon Background Study, City of Chicago, Illinois, February 24, 2003". Similarly, the arsenic level of 14 mg/kg may be considered merely a marginal exceedance of the residential ingestion soil remediation objective of 13 mg/kg, while arsenic concentrations in remaining samples were well below the residential criterion. Given these marginal and isolated exceedances, the Ft. Dearborn USARC property is suitable for future unrestricted land use and no further investigations or remedial actions are warranted. Section 4.0 of the report has been revised to provide additional support for the lack of need for institutional controls.

6. IEPA Comment: Figure 3: In this figure, the confirmation sample locations are shown. However, the excavation is really two separate excavations, one 7.8 feet deep and another 4.5 feet deep. According to the guidance the work plan was following, it states that in no case is less than one sample on each sidewall acceptable. Since the excavation was irregular, three sidewalls were left not sampled in the 7.8 feet deep excavation, and one sidewall was not sampled in the 4.5 feet deep excavation. In addition, since there were two excavations, there should have been two floor samples per excavation. The sampling approach used on these two excavations is obviously contrary to that specified in the guidance and what was agreed upon in the work plan. Please explain.

   Army Response: The Army considered and considers the excavation to be a single excavation and believes the sampling that was performed is consistent with the sampling methodology of the work plan. This view is based on the very small size of the excavation floor (4 ft x 6 ft) and the fact that the northern portion of the excavation was performed primarily to assess the location and physical condition of the sewer, rather than removal related to contamination. Also, the sampling performed at the site is adequate to characterize the site conditions given that six soil samples were collected in the small area and that two samples were collected immediately adjacent to the former drum; one sample immediately below and one immediately adjacent.

7. IEPA Comment: Figure 4: Please explain the dispersal pattern of the floor and wall confirmation samples. In addition, Figure 2-3A in the work plan specified a slightly different sample layout.

   Army Response: The Army believes that the sampling performed at the site was consistent with that specified in the Work Plan. Planned wall and floor sample locations are illustrated in plan and section view on Figures 2 and 3A of the Work Plan, respectively. The wall samples were collected at the locations and depths specified. Floor sample locations were adjusted in the field based on site conditions. The presence of large gravel in the excavation prevented samples from

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1 National Library of Medicine. 2003. Hazardous Substances Data Bank, U.S. National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894, National Institutes of Health, Department of Health & Human Services.

being collected at the planned locations. In the absence of any obvious evidence of contamination, samples were collected as close as possible to the planned locations. Section 2.2.2 of the text has been revised to include the statement: "*Samples were collected at the locations specified in the Work Plan with exception of the floor samples, which were adjusted based on field conditions. The presence of large gravel required the samples to be relocated. Samples were collected from locations as close as possible to the planned sample locations.*"

8. IEPA Comment: Figure 5: The figure shows no floor samples were collected. Please explain.

   Army Response: Figure 5 has been revised to illustrate the locations of the floor samples collected at the time of excavation, which were inadvertently omitted from the figure. Samples were collected at the locations specified in the Work Plan.

9. IEPA Comment: Figure 6: The sample depths of the four samples collected from outside the former vehicle inspection pit were deeper than as specified in Figure 2-2 of the work plan. Please explain.

   Army Response: As specified in Section 3.1 of the final approved Work Plan, soil samples were to be collected at a depth of 6 feet. In the event that sub-base rock/gravel was encountered at this depth, the sampler was to be advanced until the soil beneath the base rock was accessible and the sample then was to be collected immediately beneath the sub-base rock/gravel. The sampler was advanced to a depth of 6 feet at each sample location and no sub-base gravel/rock was encountered while drilling. Accordingly, each sample was collected from a depth beginning at 6 feet to a depth of 7 feet to provide adequate sample volume for the required analyses. A sample depth of 6 to 7 feet is appropriately indicated at each sample location on Figure 6.

10. IEPA Comment: Appendix A: All the inspection photographs in this appendix were taken by Rebecca Oswald, Illinois EPA. However, she is credited with none of them. Please correct.

    Army Response: The 2nd to last sentence of the 1st paragraph in Section 2.0 has been revised as follows: "Photographs taken during the field work were provided by Ms. Rebecca Oswald, Illinois EPA. Selected representative photographs are provided in Appendix A."

11. IEPA Comment: Table 1: Please explain how the pH dependent migration to groundwater soil remediation objective was determined for the inorganic constituents listed in this table.

    Army Response: As indicated in the table footnotes, the soil component of the groundwater ingestion pathway for metals depends on the pH. The TACO Tier 1 Soil RO for soil component of the groundwater ingestion pathway (Class I) pH ranges from 8 to 10. The RO values provided in Table 1 use a pH value equal to 8. This approach results in the use of the most conservative

RO values for data screening purposes.

12. IEPA Comment: Table 1: It was noted that many constituents in the table did not have remedial objectives. However, a number of these constituents have provisional remedial objectives available through the Illinois EPA's Toxicity Assessment Unit. Please visit the Agency's web page and click on the *Bureau of Land* link. In the body of the page, click on the *"Chemicals not in TACO Tier I Tables"* link. On this page, there are links to the soil remediation objectives for both residential and industrial/commercial properties. Please review Table I in the completion report and compare the remedial objectives listed with those found on the Agency's web page. If Table I shows a chemical has no remedial objective, but a remedial objective is available through the web page table, please include it with a footnote. In those cases where gray-shaded rows are shown, this indicates there are provisional objectives available for that particular chemical. Please compile a list of the chemicals from Table I for which provisional objectives are required and submit that to the Agency. Provisional objectives will be provided based on the list submitted.

    Army Response: The Illinois EPA provided the Army with provisional objectives for ten analytes [aluminum, chloroethane, chloromethane, dibenzofuran, 1,3-dichlorobenzene, dimethylphthalate, 2-hexanone, iron, 2-nitroaniline, 2,4,6-tribromophenol] in an internal memorandum dated August 8, 2003 from Tom Hornshaw to Andy Jankowski. The applicable remedial objectives for these analytes have been added to Table 1, as requested.

    Comparison of these remedial objectives with site data indicates that all detected concentrations were below the provisional objectives except iron. Exceedances of the iron provisional objective were detected at the former vehicle inspection pit OTH-1), former shop sink (OTH-2), and former vehicle washrack (OTH-3). Iron exceeded the provisional residential ingestion criterion of 23,000 mg/kg in 5 of 24 samples analyzed at concentrations ranging from 23,900 to 31,600 mg/kg. These concentrations are well within the regional background concentration range of 5,000 to 80,000 mg/kg published by the IEPA[2]. In addition, iron is an essential nutrient for all receptors and generally does not present a hazard to human health. On the contrary, iron is essential for good health and is routinely taken as dietary supplement. Information regarding adverse health impact due to exposure to iron is limited to inhalation of iron oxide and handling of iron ore, where iron concentrations are significantly higher than those detected at this site.

    Given the sporadic nature of the iron exceedances, the fact that detected concentrations are within the regional background range (which suggest that iron may not be site related), and the fact that iron is an essential nutrient and on site concentrations are not known or expected to

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2 Illinois Environmental Protection Agency, Office of Chemical Safety. Technical Report, A Summary of Background Conditions for Inorganics in Soil. August 1994.

represent a hazard to human health, the Ft Dearborn USARC property is suitable for future unrestricted use and no further investigations or remedial actions are warranted due to iron.

13. IEPA Comment: Table 1: Please revise the table to include the remedial objectives for cis-1,3-Dichloropropene and trans-1,3-Dichloropropene as listed in Title 35 of the Illinois Administrative Code ("35 IAC") Part 742 "Tiered Approach to Corrective Action Objectives" ("TACO").

    Army Response: The remedial objectives for cis-1,3-Dichloropropene and trans-1,3-Dichloropropene have been added to the table as requested. No additional changes to the report were required based on this revision since neither chemical was detected.

14. IEPA Comment: Table 1: The analysis results show many of the residential, and migration-to-groundwater remedial objectives were not met by virtue of the detection limits. The text offers no explanation regarding this, nor does the text draw a conclusion regarding the reuse classification for the property based on these results. Please clarify.

    Army Response: There are nine compounds [2,4-Dinitrophenol, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3,3'-Dichlorobenzidine, Bis(2-chloroethyl) ether, Nitrobenzene, N-Nitrosodi-n-propylamine, Pentachlorophenol, and Vinyl chloride] for which the reporting limits exceed the applicable remedial objectives. Due to limitations in laboratory methods, it is not always possible to sense a constituent at or below its remedial objective concentration. This is a common occurrence in environmental investigations. Furthermore, matrix affects due to the presence of other chemicals may result in raising the reporting limits. Of these nine compounds, three are explosive residues and are not compounds associated with the mission of a Reserve Center. None of these nine compounds were detected above their respective detection limit, which is less than the reporting limit.

    The inability to sense all the compounds at their lowest remedial objective contributes to the overall uncertainty associated with the results of the investigation but is not considered significant. Therefore, the reuse classification is not affected by this uncertainty. It is noted that the approved QAPP provided method reporting limits for these nine compounds that were above the corresponding TACO remedial objectives.

    Section 3.1.5 of the report has been revised to incorporate the following statement: "The reporting limits for *2,4-Dinotrophenol, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3,3'-Dichlorobenzidine, bis(2-chloroethyl)ether, nitrobenzene, n-nitrosodi-n-propylamine, pentachlorophenol, and vinyl chloride* were above the TACO residential and/or migration to Class I groundwater criteria due to limitations inherent in available laboratory testing methods. Best available technology and standard analytical methods, with normal reporting limits, were

utilized. However, this is a common occurrence in environmental investigations. This contributes to the overall uncertainty associated with the results of the investigation but is not considered significant."

USEPA Comments dated June 17, 2003 and September 10, 2003:

1. USEPA Comment: Section 1.1 Background, 3rd paragraph, p.2: Why was the fifth Category 7 site (Indoor Firing Range) not included in this Construction Completion Report (CCR)? The Indoor Firing Range (Site ORD-1) was included in the December 2001 Final Work Plan For Various Site Remediations at Fort Dearborn. Please add a section to the CCR to include any deviations from the work plan and unplanned occurrences

   Army Response: As stated in Section 2.0 of the Final Work Plan, "This Work Plan addresses the collection of soil samples and/or the removal of equipment associated with four of the five identified Category 7 locations. The fifth area, the firing range, was removed and remediated by Cape Environmental in November 1999. The remaining four sites addressed in this Work Plan include the former vehicle inspection pit (OTH-1), the former shop sink (OTH-2), the former vehicle wash rack (OTH-3), and the oil-water separator (OWS-1). This Work Plan also addresses removal of a 250-gallon aboveground storage tank (AST) located north of the Organizational Maintenance Shop (OMS) Building." Accordingly, the last sentence in Section 1.1 of the Construction Completion Report states "A fifth Category 7 Area, the Indoor Firing Range, was remediated by Cape Environmental, Inc. in November 1999 and is not addressed herein." To provide clarity, the text has been revised to add the statement "Results of the remediation are presented in *Final Closure Report, Industrial Hygiene Surveillance and Air Monitoring Conducted During Range Decommissioning at Fort Dearborn Army Reserve Center, Small Arms Firing Range, Rosemont, Illinois,* dated May 2000." at the end of Section 1.1.

   U.S. EPA's Comment on RTC: The Army's response appears adequate. It was agreed by the Army, Illinois Environmental Protection Agency (IEPA) and U.S. EPA that the Army and its consultant (Montgomery Watson Harza) would go back and check the *Final Closure Report, Industrial Hygiene Surveillance...., dated May 2000* and files for any concurrence correspondence from U.S. EPA and IEPA. (Action Item: Doug Meadors (Army) and Bob Suda (Montgomery Watson Harza) agreed to follow-up with this item.)

   Army Response: The USEPA documented their review *of Final Closure Report, Industrial Hygiene Surveillance and Air Monitoring Conducted During Range Decommissioning at Fort Dearborn U.S. Army Reserve Center, Chicago, Illinois* in a letter dated March 5, 2001 from Ms. Shari Kolak (USEPA) to Mr. Mark Buck (U.S. Army, 88th Regional Support Command). This letter states: "The United States Environmental Protection Agency (U.S. EPA) has reviewed the Final Closure Report, Industrial Hygiene Surveillance and Air Monitoring Conducted During Range Decommissioning, which we received on December 28, 2000, for the Fort Dearborn U.S. Army Reserve Center in Chicago, Illinois. We also looked at the companion Phase I Indoor

Firing Range Site Survey report which was attached to the Final Closure Report. U.S. EPA has no comments and approves the Final Closure Report as submitted."

2. USEPA Comment: Section 1.3 Project Scope and Objectives, 3rd paragraph, p.4: The CCR states that the "scope of work also included removal of an empty unattached 250-gallon above-ground storage tank (AST) that was resting on the ground near the north side of the OMS Building. No further information regarding the disposition of the tank is available."

   Did the Army's contractor perform any sampling near the north side of the OMS Building, or suspect any potential contamination in this area?

   Army Response: The above ground storage tank was apparently abandoned on the property. Since the tank was empty and there was no evidence of any spills or leaks associated with the tank, no environmental concerns were noted and no environmental sampling was included in the approved work plan. However, to properly dispose of the tank, the scope of the demolition project included provisions for disposal of the tank. To provide clarity, the text has been revised to include the following statement: "No evidence of spills or leaks were observed to be associated with the tank. Therefore, no environmental sampling was required as part of this project."

   U.S. EPA's Comment on RTC: Concur.

   Army Response: No further response is needed.

3. USEPA Comment: Section 3.1.5 Analytical Data Validation, p.15: Text states that the independent third-party validation (to be done by USACE contractor Lee A. Knupple and Assoc.), on at least 10% of the data, was submitted separately from this document. US-EPA has not received this data validation report as yet. Please be advised that our review of this Construction Completion Report will not be complete without our ability to review the third-party data validation report, and findings.

   Army Response: The third-party data validation report is pending and will be provided in a separate submission as soon as it is available.

   U.S. EPA's Comment on RTC: Understood. Please provide the 3rd-party data validation report so that U.S. EPA may continue our review process.

   Army Response: The third party data validation report prepared by Lee Knupple & Associates was submitted to the USEPA on 07 August 2003.

4. USEPA Comment: Tables Section/all SVOCs: It was noted that for all the SVOC data tables, significant hits were listed for 2,4,6 Tribromophenol (listed as a surrogate in the SVOC analytical reports provided in Appendix D), but no listing or values for 2,4,6 Trichlorophenol (which was an actual analyte listed in the Appendix D SVOC reports). Is this a typo, or is the surrogate being reported out here?

   Army Response: The table has been corrected to replace 2,4,6 Tribromophenol with 2,4,6-Trichlorophenol. Other changes made to this table to address errata identified while reviewing this comment are: correct the result for benzo(g,h,i)perylene in sample FIP-003-06-SSS; and correct the reporting limits for 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, and hexachlorobutadiene.

   U.S. EPA's Comment on RTC: Understood. Please provide the revised table(s) so that U.S. EPA may continue our review process.

   Army Response: The revised tables have been provided.

5. USEPA Comment: Appendix D, Case Narratives, Manual Integration: It was noted for every case narrative, under PCB Fraction - Method 8082, there were listing of pages where manual integration took place, and the only explanation provided was a statement to "See hard copy for explanations of manual integrations". There were no hard copy provided, nor any explanations of why any of this manual integration took place in this report. Please provide an explanation of what manual integrations took place, why they were necessary, and if it was deemed justified.

   Army Response: The project QAPP specifies that ARDL will follow the procedures outlined USEPA Region V Policy on Manual Integration (USEPA, 2001). The Region V Manual Integration Policy states that it is "limited only to GC/MS methodologies, specifically for Volatiles and Semi-Volatiles analysis." Polychorinated biphenyls are analyzed by Method SW8082, which is a GC method, therefore, manual integration documentation is not required under the Region V Manual Integration Policy. PCB manual integration documentation can be provided upon request.

   Benzo(b)fluoranthene (sample VWR-005-02-EBT) and benzo(k)fluoranthene (samples VWR-006-02-EBT, VWR-003-02-ESW, FSS-007-05-EBT, FSS-004-040ESW, and FSS-003-04-ESW) analyzed by GC/MS using Method SW8270C SIM were manually integrated. These compounds were manually integrated due to an incorrect peak selected by the computer. Manual integration documentation for these samples is provided in the revised Appendix D.

   U.S. EPA's Comment on RTC: Understood. Although the U.S. EPA Region 5 Manual Integration Policy lists GC/MS methods; both logic and the desire for meaningful project data

would encourage data reviewers/validators to be vigilant to ensure the proper use of manual integration at any time or for any method in which it is being utilized. Please provide the documentation in Appendix D (as mentioned), and include feedback as to the reasons for, necessity of and proper performance of manual integrations for all methodologies for which it is performed.

Army Response: Manual integration documentation for both GC and GC/MS analyses has been included in the revised Appendix D.

6. USEPA Comment: Appendix D, Lab Report 301101: The sample VWR-008-02-EBT appears on the chain of custody forms, and has analytical data output forms for VOCs, SVOCs, PCBs, PAHs, Glycol, and Inorganics. However, there is no listing of this data in the Tables section of this report, nor a mention in either the text of the report, or indication on the sampling Figure 4 (Former Vehicle Wash Rack) area, as to where this sample was taken or what impact (if any) this data had. Please explain.

   Army Response: Sample VWR-008-02-EBT is a field duplicate of sample VWR-006-02-EBT. Section 2.15 has been added to the Data Validation Report to discuss quality control (QC) sample results. The results have no impact on the findings presented in the Construction Completion Report.

   U.S. EPA's Comment on RTC: Understood. No further response is needed.

7. USEPA Comment: Appendix D, Lab Report 301104: The sample OWS-005-08-EBT appears to have been run three times for VOCs (there are three separate VOC data sheets, numbered ARDL lab no.301104-01, 301104-01MS, and 301104-MD). The Tables section of the report, shows only the data for one of the samples, not the MS/MD pair. Are the hits for 1,1 dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene shown in the MS and MD samples due only to the matrix spike?

   Army Response: An MS/MSD was conducted on sample OWS-005-08-EBT, which was non-detect for all target VOC analytes. The MS/MSD spike included 1,1-dichloroethene, benzene, trichloroethene, toluene, and chlorobenzene. The detections of these compounds in the MS and MSD samples were due to the spike. To avoid confusion potentially arising from this, the MS and MSD results have been removed from the revised Appendix D.

   U.S. EPA's Comment on RTC: Understood. No further response is needed.

8. USEPA Comment: Appendix E, Data Validation Report: In Section 2.13 Manual Integration, text states that the laboratory case narratives did not provide any documentation of manual

integration for GC or GC/MS analysis. The raw data for only two SDGs were reviewed for evidence of manual integration. There is little or no indication from this Validation Report of why the manual integrations were done, if the manual integrations were done properly, or if they were even necessary. Furthermore, this level of review does not satisfy the requirements of the Region V Manual Integration Policy, as the text infers in the Summary Section 3.0 of this Data Validation Report. The validation did not even satisfy the requirements of the Final Project QAPP (see Final Project QAPP, June 2002, Section 6.2.5 Manual Integration, p.32 -34). All manually integrated data (100%) must be validated by an independent third party validator. US-EPA has not yet seen the third party validation report, nor any indication that 100% of the manually integrated data has, or ever will be, validated.

Army Response: The text in Section 2.13 was incorrect. The case narratives included in Appendix D list all instances of manual integration. All GC and GC/MS manual integration documentation is provided in the revised Appendix D. For clarity and correctness, Section 2.13 has been revised to state:

> "*Manual integration of analytical data produced by GC or GC/MS is defined as replacing the automatically generated output of the data handling system of an analytical instrument with an analyst-generated estimation of the area under the peak. The laboratory case narratives listed instances of manual integration. All GC/MS manual integrations were clearly identified on the raw data quantitation reports with an "M" flag. The before and after chromatograms that were signed and dated by the analyst were provided for all instances of GC and GC/MS manual integration.*
>
> *Polychlorinated biphenyls analyzed by SW8082, a GC method, required manual integration due to excess area under the peaks (SDG #301100, #301101, #301102, and #301103) and because the peaks did not split in the initial calibration (SDG #301103 and #301104). Benzo(b)fluoranthene (sample VWR-005-02-EBT) and benzo(k)fluoranthene (samples VWR-006-02-EBT, VWR-003-02-ESW, FSS-007-05-EBT, FSS-004-04-ESW, and FSS-003-04-ESW) analyzed by GC/MS using SW8270C SIM were manually integrated due to incorrect peaks integrated by the computer. Manual integration was performed in a consistent and scientifically valid manner and had no impact on data quality. All GC and GC/MS manual integration documentation is provided in Attachment 1.*"

The third-party data validation report is pending and will be provided in a separate submission as soon as it is available.

U.S. EPA's Comment on RTC: Understood. Please provide the revisions and 3rd-party data validation report so that U.S. EPA may continue our review process.

Army Response: The third party data validation report prepared by Lee Knupple & Associates was submitted to the USEPA on 07 August 2003.

USEPA Comments dated September 12, 2003:

1. Section 4.7 Data Review Comments/Surrogate Recovery Limits Sub-Sections: There is a minor typo in several of these sub-sections, stating that "The total number of samples analyzed was twenty-seventy". Please correct.

   Response: The typo was corrected in several of the subsections.

2. Attachment 2 - Checklists: PCB Checklists: For all PCB checklists, there is an "N/A" (not applicable) notification for Item 4d (pertains to Retention Time Window specs).. Looking back at the Sample Analysis Subsection for PCBs (see p.25), text notes that the RRT were within control limits. Please explain.

   Response: The polychlorinated biphenyls (PCB's) checklists have the "N/A" checked since a PCB analyte was not detected in the samples. The Relative Retention Time (RRT) were within control limits for the standards and therefore it was stated that the RRT were within control limits.

3. Attachment 2 - Checklists: Glycol Checklists: For the Glycol checklists, there is an "N/A" (not applicable) notification for Item 4d (pertains to Retention Time Window specs).. Looking back at the Sample Analysis Subsection for Glycol (see p.26), text notes that the RRT were within control limits. Please explain.

   Response: The glycol checklists have the "N/A" checked since the glycol analyte was not detected in the samples. The RRT were within control limits for the standards and therefore it was stated that the RRT were within control limits.

4. Attachment 5 - Chain of Custodies: Cooler Receipt Report/ADRL #301101/Cooler #N011. Report indicates that there was no Custody Seal date or name, and states "No" to Item 5: "Were custody papers sealed in a plastic bag, and taped inside to the lid?". If this is a typo, please correct. If not, this practice should be revised for future sampling efforts so that the seals are dated and named, and that the C.O.C. form is included in the cooler as required by Item 5.

   Response: The custody papers were provided in sealed plastic bag in each cooler. However, for this specific cooler, it is unclear if the custody papers were taped to the top of the cooler, the tape did not adequately adhere to the top of the cooler, or whether the papers were inadvertently not taped to the cooler. If additional samples are collected at this site, the field crew will place greater emphasis on ensuring that the custody papers are taped to the top of each cooler and the

custody seals are named and dated.

5. Attachment 5 - Chain of Custodies: Cooler Receipt Report/ADRL #301103/Cooler #N004. Report indicates that there was only one custody seal on the cooler. Aren't two seals normally utilized? Please explain. It would also be helpful if the signature/name on the seal(s) was more legible to the sample custodian, as several sample receipt forms noted that the seal name could not be read.

   Response: It is normal practice to apply two custody seals to each cooler. In this instance, it is unclear whether only one custody seal was inadvertently not applied or whether the second custody seal became dislodged from the cooler during transit. Given that one intact seal was on the cooler at the time it was received at the analytical laboratory, there are no concerns with the integrity of the samples. If additional samples are collected at this site, the field crew will place greater emphasis on ensuring that two custody seals are affixed to each cooler and that the signature/name on the seal(s) is more legible.

6. Attachment 6 - Data Qualifiers: Semivolatile Tables: It was noted that the values reported out as "U" were slightly higher than the RL list in the QAPP. There is not an indication in the tables here, but did these samples require an adjustment that thereby raised

   Response: The Reporting Limits (RL) in the Final Quality Assurance Project Plan (QAPP) (August 2002) are dry weight reporting limits derived from laboratory studies. For the soil samples, some moisture is normally present. The raised reporting limits were based on the percent moisture of the samples.